Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

TITLE V PROPOSED PERMIT NO. V-05-003
CARMEUSE LIME & STONE, INC BLACK RIVER OPERATION
BUTLER, KENTUCKY.
OCTOBER 31, 2005
ROBERT L. WILLIAMS, REVIEWER
PLANT I.D. # 21-191-00002
APPLICATION LOG # 50254
AI # 3400

SOURCE DESCRIPTION:

Carmeuse Lime & Stone, Inc (formerly known as Dravo Lime, Inc) Black River Operation in Butler, Kentucky is a lime manufacturing facility. They also ship limestone that is too small to be calcined in the kilns.

They are currently operating under:

Permit O-89-088 (Amended), signed February 27, 1991, which covers their limestone operation, coal operation, Kilns #1, #2, and #3, with their existing lime processing, the hydration process, and the haul road and yard area;

Permit C-90-029, signed February 20, 1990, which covers the addition of a portable crushing and screening unit; and

Permit C-93-032, signed August 12, 1993, which is a PSD permit covering Kilns #4, #5, and #6 (which was not constructed) and additions to the lime processing.

COMMENTS:

TYPE OF CONTROL AND EFFICIENCY

The particulate emissions from the conveyors are controlled by water spray (control efficiency of 90%), moist material (control efficiency of 90%), enclosures (control efficiency of 90%) and/or baghouses (control efficiency of 99.9%). The application submitted to the Division listed "water spray" as control equipment for the majority of the limestone conveyor process, but the permittee requested this be changed during the permit writing process to "moist material". After a discussion with the Regional Office, the decision was made to change "Control Equipment" to "Control" and "Water Spray" to "Moist Material" for the conveyor process and associated stockpiles during the limestone and coal handling. Although the permit list the control for the limestone and coal processing (crushing, screening, conveying) as "Moist Material" the Division is assuming that the controls listed in the initial application as water spray will be similar to that utilized by the respective limestone and coal industries. These controls are a pressurized water system with atomizing nozzles. These controls will be in place, properly maintained, and in operation any time the associated piece of equipment is operated.

COMMENTS: (CONTINUED)

TYPE OF CONTROL AND EFFICIENCY (CONTINUED)

The stockpiles are to be monitored and sufficiently wetted to ensure the control of fugitive emissions. If any of the controls listed by the company in the application prove to be inadequate to meet the emission requirements listed in the permit, the Division reserves the right to require another form of "control equipment" be utilized to meet the permit requirements.

The CO, and NO_x have no controls assigned to them. Although the application lists no controls for SO_2, the SO_2 emissions are controlled by scrubbing with lime dust in the process. A control efficiency of 92% is allowed for the natural dry scrubbing with the lime dust acting as the scrubbing agent.

The emissions from haul roads (paved and unpaved) are controlled by a wet suppression method (water truck). The paved haul roads have a control efficiency of 90%, while the unpaved haul roads have a control efficiency of 70%.

EMISSION FACTORS AND THEIR SOURCE

AP-42, Chapter 11.17, Lime Manufacturing, was used for the lime processing, including the hydrate plant.

Emission Factors for limestone and coal are the standard factors used for those industries in the State of Kentucky by the Division for Air Quality's Minerals Section.

APPLICABLE REGULATIONS

The Limestone Handling is governed by **401 KAR 60:670**, New nonmetallic mineral processing plants (40 CFR 60, Subpart OOO as modified by Section 3 of 401 KAR 60:670) and **401 KAR 63:010**, Fugitive emissions.

The Coal Handling is governed by **401 KAR 60:005**, Standards of performance for new stationary sources, which incorporates by reference 40 CFR 60.250 (40 CFR 60, Subpart Y), and **401 KAR 63:010**, Fugitive emissions.

Kilns #1, #2, and #3 are governed by **401 KAR 61:020**, Existing process operations, since Kilns #1 and #2 were constructed in 1970 and Kiln#3 in 1974. Kiln #3 was listed in the Draft Permit as having a construction date of 1976 (per Title V application), but further review revealed a construction date of 1974 (See Response to Comments, Comment #3).

Kilns #4 and #5 are governed by **401 KAR 60:005**, Standards of performance for new stationary sources, which incorporates by reference 40 CFR 60.340 (40 CFR 60, Subpart HH), and **401 KAR 51:017**, Prevention of significant deterioration of air quality.

The Lime Handling is governed by **401 KAR 59:010**, New process operations; **401 KAR 61:020**, Existing process operations; **401 KAR 63:010**, Fugitive emissions; and **401 KAR 51:017**, Prevention of significant deterioration of air quality.

EMISSION AND OPERATING CAPS DESCRIPTION: (CONTINUED)

These issues were addressed by Mr. Dan Gray, PE, Permit Review Branch Manager, on April 25, 2000, to Mr. Love:

> "As you are aware, the Division has received similar requests from some of the electric power generating plants. As part of their Title V permit review and approval process, the Federal Environmental Protection Agency (EPA) has advised the Kentucky Division for Air Quality that petcoke is an alternative fuel or raw material, and its use therefore, is a change in the method of operation. Whether or not the use of the alternative fuel or raw material would be exempt from being considered a modification depends on whether the source was capable of accommodating its use prior to January 6, 1975. EPA considers the use of petcoke to be exempt only if the source considered the use of petcoke in its design prior to January 6, 1975 and has plans and/or specifications to document the intended use of the petcoke.
>
> Therefore, for the Division to be able to honor your request and allow the use of petcoke by the older three units, the Division requires documentation to demonstrate that the equipment was designed to use the petcoke prior to January 6, 1975. Alternatively, you can provide information to demonstrate that the potential emission increase associated with the proposed modification would not equal or exceed the PSD significant levels."

Although the above referenced correspondence addresses the burning of petcoke or other alternative blended fuel at Carmeuse's Maysville Operation, the same response would apply to Carmeuse's Black River Operation. Therefore, the burning of petcoke or other alternative fuel will not be authorized in Kilns #1, #2, or #3 until the documentation requested in Mr. Gray's letter has been submitted and reviewed by the Division. If the documentation cannot be provided, then a PSD review and request for a permit modification must be submitted to the Division for review before authorization to burn petcoke in Kilns #1, #2, #3, #4, and #5 is approved. Closer review of the Title V application and previous applications revealed that Petcoke had never been listed as a fuel until the Title V application, which included the changing from stockpiles to silos along with the additions of a coke scale and blend scale to accommodate the use of petcoke. This represents a physical change in operation to utilize petcoke as a blended or alternative fuel. Therefore a PSD review would be required prior to granting permission for the burning of petcoke or other alternative blended fuel in any of the kilns. See Response to Comments for a more detailed response.

When Kiln #2 in brought back on line, testing will need to be completed in accordance with the permit conditions and the results submitted to the Division for approval prior to placing it back operationally on line.

The maximum lime production rate from kilns #4 and #5 is 46 tons/hour, each. The particulate emissions from each kiln shall not exceed 0.60 lb/ton of stone feed [0.41 lb/ton of lime output (0.02 gr/acfm)]. The visible emissions discharged into the atmosphere from each kiln shall not exceed 15% opacity when exiting from a dry emission control device. The carbon monoxide, nitrogen oxide, and sulfur dioxide emissions from each kiln shall not exceed 91.67 lbs/hour, 128.33 lbs/hour, and 22.97 lbs/hour, respectfully.

The particulate emissions from Kiln #2 after restart shall not exceed 0.12 lb/ton of stone feed. Operating limits are established in Table 2 to Subpart AAAAA of Part 63.

EMISSION AND OPERATING CAPS DESCRIPTION: (CONTINUED)

The visible emissions associated with the Lime Handling, excluding the Hydrate Plant, shall not exceed 7% opacity. The visible emissions associated with the Hydrate Plant shall not exceed 20% opacity.

PERIODIC MONITORING:

Due to the product produced at Carmeuse Lime & Stone, Inc Black River Operation, it is imperative that the monitoring requirements listed in the permit be followed to ensure that any problem resulting from a control or equipment malfunction/failure be minimized as much as possible.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.